



The Human Body-Water Relationship

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Human body water composition by organ/tissue

- Muscle – 75%
- Fat – 20%
- Blood – 83%
- Bones – 22%
- Heart – 80-90%
- Lung – 80-90%
- Brain – 75%



http://encarta.msn.com/text_761556865___18/Human_Nutrition.html

<http://www.madsci.org/posts/archives/may2000/958588306.An.r.html>

http://www.seps.org/oracle/oracle.archive/Life_Science.Biochem/2001.06/000991410254.7589

http://www.myhealthpointe.com/health_Nutrition_news/index.cfm?Health=10



Human body water composition by sex, weight and age

- Babies and kids have more water (%) than adults
 - 70-80% water during birth
 - Drops to 65% after 1 year
- Obese people have less water (%) than skinny people
 - Muscle is 75% water
 - Fat is 20% water
 - For this reason, older people (who generally have a higher fat %) have less water (%) than younger people
- Women have less water (%) than men
 - Women have naturally higher (%) body fat

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Daily human body water requirements

- The average adult must replace the ~10 cups (80 oz) of water it loses each day through perspiration, the kidney/bladder system, bowel movements and the respiratory system (which must be moist or breathing would be painful)
- Factors listed on the next page increase water intake requirements

<http://www.ynhh.org/online/nutrition/advisor/water.html>

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Daily human body water requirements

This graph summarizes the results of various water requirements studies. The results for each study are listed together, and it is apparent that each study reaches similar but different conclusions. Although each study has its strengths and weaknesses, general conclusions can be drawn on approximate water requirements.

	Sedentary, Temperate Environment	Physically Active and/or Increased Temperature
Female Adult	74 oz/day	152 oz/day
Male Adult	98 oz/day	152 oz/day 169 oz/day 27 oz/hr 372 oz/day
Male and Female	68-135 oz/day 16 oz/hr	270-540 oz/day 24-32 oz/hr

*Water Requirements, Impinging Factors, and Recommended Intakes, WHO, 2004

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Factors affecting hydration

- When exposed to extreme temperatures—very hot or very cold—your body uses more water to maintain its normal temperature.
- During strenuous work or exercise your body loses water through perspiration or evaporation from your skin.
- When you are exposed to heated or recirculated air for a long time (i.e., airplanes), water evaporates from your skin.
- Pregnancy and breastfeeding increase the amount of fluid a woman's body needs.
- Fever, diarrhea and vomiting cause increased water loss.
- High fiber diets require extra water to process the additional roughage and prevent constipation.

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